Remarks

The Office Action rejected each of claims 1-41 as anticipated by Morton. Applicant has cancelled each of claims 1, 2, 5, 6, 8, 30, 31 and 32. In addition Applicant has amended claim 3 to include the limitations of original claims 1, 2 and 3, claim 7 to include the limitations of original claims 1, 5, 6 and 7, claim 9 to include the limitations of original claims 1, 8 and 9 and claim 33 to include the limitations of original claims 30, 31, 32 and 33 as Applicant believes that each of original claims 3, 7, 9 and 33 include limitations that are not taught or suggested by the cited reference. Moreover, Applicant has amended other claims to modify dependencies. With respect to claims 16 and 23, Applicant believes each of those claims as originally filed recite patentable subject matter as described hereafter.

With respect to amended claim 3, among other things, claim 3 requires that a feedback determiner select either one or the other of an inhaul speed feedback signal and an outhaul speed feedback signal, depending on the direction of trolley motion (i.e., either in hauling or out hauling). Applicant has analyzed Morton in great detail and is clear that Morton not only fails to teach or suggest a feedback determiner that selects one or the other of an inhaul feedback signal and an outhaul speed feedback signal, but goes further to teach away from a determiner that selects one of the two feedback signals. In this regard, Morton contemplates a control system that, in general, has two modes of operation, a first "landing" mode of operation (see col. 38, lines 57-62) that occurs whenever a trolley is within, for example, 8 meters of either a supply ship or a receiving ship (see also Morton's Fig. 1) and a second "transfer" mode of operation that occurs when the trolley is more than 8 meters away from each of the ships.

According to Morton, when a trolley is within 8 meters of either a supply ship or a receiving ship and therefore is in the landing mode of operation (see col. 43, line 65 – col. 44, line 56), one of two different feedback velocity signals are provided for summing with a command signal where the velocity signal selected is a function of the direction in which the trolley is headed (i.e., toward the receiving ship or toward the supply ship). Here, however, while one of the feedback velocity signals is

an inhaul velocity signal V_i, the other signal is $(V_o-V_i)/2$. Value $(V_o-V_i)/2$ is derived from both inhaul speed signal V_i and outhaul speed signal V_o and therefore is not solely an outhaul speed signal V_o as required by claim 3.

According to Morton, when the trolley is more than 8 meters from each of the supply ship and the receiving ship and therefore is in the transfer mode of operation, depending on other circumstances, both, one or none of the inhaul and outhaul speed feedback signals V_i and V_o, respectively, may be used together to alter a command signal irrespective of trolley transfer direction. To this end, referring to Morton's Figs. 5A through 5C, Morton teaches that inhaul and outhaul speed feedback signals are generated by sensors 160 and 164 and are provided on lines 168 and 176 to a velocity converter 174. Converter 174 converts the received signals to outhaul speed feedback and inhaul speed feedback signals V_o and V_i, respectively, that are provided to, among other components, an auto transfer control 210 that, among other things, controls winch speeds as a function of velocity command signals and the feedback signals V_i and V_o.

Referring to Morton's Figs. 12A and 12B, control 210 is illustrated in great detail. Most importantly, as illustrated, the inhaul speed feedback signal V_i on line 208 (see upper left hand portion of Fig. 12A) is provided to two operational amplifiers 1342 and 1288 where, depending on the value of feedback signal V_i, one or the other of diodes 1368 and 1320 associated with amplifiers 1342 and 1288 is forward biased to provide a feedback value associated with signal V_i to a summing amplifier 1230. Here, where speed feedback signal V_i is positive and exceeds a negative value of a transfer velocity command, diode 1368 is forward biased and a value associated with feedback signal V_i is provided to summer 1230 (see col. 41, lines 53-62). Similarly, where speed feedback signal V_i is negative and exceeds a positive value of the transfer velocity command, diode 1320 is forward biased and a value associated with speed feedback signal V_i is provided to summer 1230 (see col. 42, lines 9-14). Thus, whenever the inhaul speed feedback value exceeds a transfer velocity command, an inhaul related speed feedback value is provided to

summer 1230 irrespective of trolley direction (i.e., the trolley may be moving either toward or away from the receiving ship).

In a similar fashion, Morton teaches that the outhaul speed feedback signal V_o on line 214 (see upper left hand portion of Fig. 12B) is provided to two operational amplifiers 1328 and 1302 where, depending on the value of feedback signal V_o, one or the other of diodes 1364 and 1324 associated with amplifiers 1328 and 1302 is forward biased to provide a feedback value associated with signal V_o to the summing amplifier 1230. Here, where speed feedback signal V_o is positive and exceeds a negative value of a transfer velocity command, diode 1364 is forward biased and a value associated with feedback signal V_o is provided to summer 1230 (see col. 42, lines 37-45). Similarly, where speed feedback signal V_o is negative and exceeds a positive transfer velocity command value, diode 1324 is forward biased and a value associated with speed feedback signal V_o is provided to summer 1230 (see col. 43, lines 16-31). Thus, whenever the outhaul speed feedback value exceeds a transfer velocity command, an outhaul related speed feedback value is provided to summer 1230 irrespective of trolley direction (i.e., the trolley may be moving either toward or away from the receiving ship). Summing operational amplifier 1230 provides its output on line 256 to control winch speeds.

In summary, when operating in the landing mode, Morton teaches that the outhaul speed feedback signal is never selected as a feedback signal and instead either inhaul signal V_i or a combination of the inhaul and outhaul signals are selected. In addition, when operating in the transfer mode, Morton teaches that one, both or none of the inhaul and outhaul feedback signals may be selected for feedback at the same time and irrespective of trolley travel direction. Thus, Morton teaches away form a system wherein, a determiner selects the outhaul speed feedback signal whenever the trolley is moving toward a first station and selects the inhaul speed feedback signal whenever the trolley is moving toward a second station.

Prior to moving on to the other independent claims, Applicant notes that Morton's col. 30, lines 48-53 that was cited in the Office Action includes teachings

regarding how Morton contemplates providing graphic feedback to a system user (see Fig. 3 in this regard) and has nothing to do with how a controller uses feedback signals to control the winches. In this regard see also Morton's col. 34, lines 15-64 that describe an interface for providing a trolley velocity bar graph to a user (see also the title in col. 33, line 56).

For at least the reasons discussed above, Applicant believes amended claim 3 and claims that depend therefrom are patently distinct over Morton.

Referring now to amended claim 7, claim 7, requires a feedback determiner that selects an inhaul sensor signal when an inhaul winch is letting cable out and selects an outhaul sensor signal when an outhaul winch is letting cable out. Here, when an inhaul winch is letting out cable an outhaul process is occurring and whenever an outhaul winch is letting out cable an inhaul process is occurring and therefore this claim is similar to claim 3 in intended coverage. Again, Morton teaches two modes of operation wherein the outhaul sensor signal is <u>never</u> alone selected as a feedback signal simply as a function of which winch is letting cable out (i.e., as a function of trolley direction corresponding to winch cable letting). During landing mode operation which may correspond to either winch letting cable out, Morton teaches that feedback either includes the inhaul speed feedback signal (i.e., when the outhaul winch is letting cable out) or a combination of the inhaul and outhaul signals (i.e., when the inhaul winch is letting cable out) (see col. 44, lines 49-56) while, during transfer mode operation, feedback may include any of an inhaul speed related signal, an outhaul speed related signal, both inhaul and outhaul speed related signals or no signal at all (see col. 41, line 45 through col. 43, line 31) irrespective of which winch is letting cable out.

Therefore, for the same reason Applicant believes claim 3 is patently distinct over Morton, Applicant also believes claim 7 and claims that depend therefrom are patently distinct over Morton.

With respect to claim 16, claim 16 requires a speed feedback determiner that selects inhaul and outhaul speed feedback values as feedback for controlling winches when a command speed value is positive and negative, respectively. Here,

when the command value is positive, a trolley should be moving toward a second station and when the command value is negative the trolley should be moving toward a first station and therefore, this claim limitation is similar to the limitation described above with respect to claim 3.

Once again, Morton teaches two modes of operation wherein the outhaul sensor signal is never alone selected as a feedback signal simply as a function of a command speed value (i.e., as a function of trolley direction corresponding to positive and negative command speeds). During landing mode operation which may correspond to either a positive or a negative command signal depending on the direction of travel, Morton teaches that feedback either includes the inhaul speed feedback signal (i.e., when the trolley is moving toward the supply ship) or a combination of the inhaul and outhaul signals (i.e., when the trolley is moving toward the receiving ship) (see col. 44, lines 49-56) while, during transfer mode operation, feedback may include any of an inhaul speed related signal, an outhaul speed related signal, both inhaul and outhaul speed related signals or no signal at all (see col. 41, line 45 through col. 43, line 31).

Therefore, for the same reason Applicant believes claim 3 is patently distinct over Morton, Applicant also believes claim 16 and claims that depend therefrom are patently distinct over Morton.

With respect to claim 23, claim 23 is a method claim that includes limitations similar to the limitations of claim 16 (i.e., when a command speed value is positive, selecting an inhaul speed feedback value as a feedback and when the command value is negative, selecting an outhaul speed feedback value). The comments above regarding claim 16 are applicable here and thus, for the same reason that Applicant believes claim 16 is distinct over Morton, Applicant believes claim 23 and claims that depend therefrom are patently distinct.

With respect to claim 33, claim 33 includes limitations similar to the limitations of claim 7. The comments above regarding claim 7 are applicable here and thus, for the same reason that Applicant believes claim 7 is distinct over Morton, Applicant believes claim 3 and claims that depend therefrom are patently distinct.

Applicant has introduced no new matter in making the above amendments and antecedent basis exists in the specification and claims as originally filed for each amendment. In view of the above amendments and remarks, Applicant believes claims 3, 4, 7, 9-29 and 33-41 of the present application recite patentable subject matter and allowance of the same is requested. No fee in addition to the fees already authorized in this and accompanying documentation is believed to be required to enter this amendment, however, if an additional fee is required, please charge Deposit Account No. 17-0055 in the amount of the fee.

Respectfully submitted,

PETER HAROLD WERNER

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By: Michael A. Jaskolski
Reg. No. 37,551
Attorney for Applicant
QUARLES & BRADY, LLP
411 East Wisconsin Avenue
Milwaukee, WI. 53202-4497
(414) 277-5711